

84943-EH

Claims

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1. Assembly to separate out liquid from a multiphase fluid flow, comprising a scrubber, a column, a separator or other conventional separation equipment combined with a deliquidizer that is connected as the preseparator to the fluid inlet, in which deliquidizer fluid flow is set into rotation so that it is separated in a central zone along the longitudinal axis, which central zone in substance contains gas, and an outer annular zone against the inside of the outer wall, which outer zone in substance contains liquid, from which central zone an outlet means for gas is arranged and from which outer zone and outlet means for liquid is arranged, in that the deliquidizer is functioning according to a cyclone principle,
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- 15 characterized in that the assembly is comprising a deliquidizer with
- an in substance pipe formed casing arranged to constitute a part of the inlet pipeline proper or the inlet, in that a spin element for rotation of the fluid flow is located at the upstream end of the casing,
- an outlet means for gas comprising an outlet element located at the downstream end of the casing, which outlet means has a central, axial passage way for the gas, and an outer surface that together with the inner surface of the casing forms an annulus for inflow of liquid, in that a barrier is formed at the downstream end of the element for the liquid, and optionally an antispin element is arranged at the downstream end of the gas outlet means,
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- an outlet means for liquid comprising an upwards open vessel that is arranged at the downstream end of the casing, or at the upstream end for main flow direction upwards, which outlet means is arranged for taking up liquid that flows into the annulus and partly flows down into the vessel from the bottom region of the casing at the vessel opening, and partly falls down into the vessel from the region at said barrier, and
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- an upper part of the outlet vessel and a central section of the inlet spin element upstream end have been connected together by use of a line, optionally with a regulation valve in the line, for recirculation of gas that can be entrained by liquid that flows or falls down into the vessel, in that the spin element has a central void space and is provided with a number of openings for outflow of recirculated gas from the void space, which
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- 35 deliquidizer is placed within the further separation equipment and constitutes an extension of the inlet.

2. Assembly according to claim 1,

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characterized in that the deliquidizer (1) is arranged within the further separation equipment and has main flow direction vertical upwards.

3. Assembly according to claim 1,
5 characterized in that the deliquidizer (1) is arranged within the further separation equipment and has main flow direction vertical downwards.
4. Assembly according to claim 1,
characterized in that the deliquidizer (1) is arranged horizontally and is placed within the
10 further separation equipment and constitutes an extension of the inlet thereto.
5. Arrangement to separate out liquid from a multiphase fluid flow, comprising a scrubber, a column, a separator or other conventional separation equipment combined with a deliquidizer that is connected as the pre-separator to the fluid inlet, in which
15 deliquidizer fluid flow is set into rotation so that it is separated in a central zone along the longitudinal axis, which central zone in substance contains gas, and an outer annular zone against the inside of the outer wall, which outer zone in substance contains liquid, from which central zone an outlet means for gas is arranged and from which outer zone and outlet means for liquid is arranged, in that the deliquidizer is functioning according to a
20 cyclone principle, which deliquidizer (1) is placed outside or within the further separation equipment,
characterized in that the deliquidizer is arranged with the main flow direction vertical upwards, in that the deliquidizer is comprising
an outer casing outside the gas/liquid separation pipe, to collect separated liquid,
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an outer cone for the gas outlet pipe, contributing to turning the liquid flow 180 ° related to the main flow direction.